Claims

1. A method comprising:

providing a variable bit rate (VBR) representation of an image sequence, the VBR representation comprising a plurality of blocks of information;

determining a plurality of time intervals Tp within the VBR representation in which a number of blocks of information per unit time is greater than a baseline value;

determining a plurality of time intervals Tn within the VBR representation in which a number of blocks of information per unit time is less than the baseline value; and

creating a second representation of the image sequence in which some blocks of information Bp are removed from the time intervals Tp and interlaced with blocks of information Bn in the time intervals Tn to reduce a variation in a number of blocks of information per unit time between the time intervals Tp and Tn.

2. The method of claim 1 wherein the number of blocks of information per unit time in the second representation is about equal to the baseline value in the time intervals Tp and Tn.

3. The method of claim 1 further comprising:

determining a bit rate for encoding the image sequence to the VBR representation which produces a desired information content of the second representation and constrains a maximum bit rate of the

second representation to be less than or equal to a predetermined value.

4. The method of claim 1 further comprising:

determining a bit rate for encoding the image sequence to the VBR representation which substantially maximizes a desired information content of the second representation and constrains a maximum bit rate of the second representation to be less than or equal to a predetermined value.

5. The method of claim 1 further comprising:

populating a header in the second representation with data indicating the time intervals Tn.

6. The method of claim 1 further comprising:

streaming the second representation of the image sequence via a communication network;

receiving the second representation of the image sequence via the communication network; and

reconstructing frames of the image sequence concurrently with said receiving, said reconstructing comprising:

during the time intervals Tn, reconstructing frames of the image sequence based on blocks of information Bn received about in real time, and storing the blocks of information Bp in a buffer; and

during the time intervals Tp, reconstructing frames of the image sequence based on the blocks of information Bp stored in the buffer and blocks

of information received about in real time.

7. A method of reconstructing an image sequence originally encoded in a variable bit rate (VBR) representation, the VBR representation comprising a plurality of blocks of information, the VBR representation defining a plurality of time intervals Tp in which a number of blocks of information per unit time is greater than a baseline value and a plurality of time intervals Tn in which a number of blocks of information per unit time is less than the baseline value, the method comprising:

receiving a second representation of the image sequence in which some blocks of information Bp are removed from the time intervals Tp and interlaced with blocks of information Bn in the time intervals Tn to reduce a variation in a number of blocks of information per unit time between the time intervals Tp and Tn; and

reconstructing frames of the image sequence concurrently with said receiving, said reconstructing comprising:

during the time intervals Tn, reconstructing frames of the image sequence based on blocks of information Bn received about in real time, and storing the blocks of information Bp in a buffer; and

during the time intervals Tp, reconstructing frames of the image sequence based on the blocks of information Bp stored in the buffer and blocks of information received about in real time.

8. The method of claim 7 wherein the number of blocks of information per unit time in the second representation is about equal to the baseline value in the time intervals Tp and Tn.

9. The method of claim 7 wherein the second representation comprises a header with data indicating the time intervals Tn, the method further comprising extracting the data indicating the time intervals Tn from the header, wherein said reconstructing the frames is based on the data indicating the time intervals Tn.

10. A system comprising:

an encoder to provide a variable bit rate (VBR) representation of an image sequence, the VBR representation comprising a plurality of blocks of information; and

a processor to determine a plurality of time intervals Tp within the VBR representation in which a number of blocks of information per unit time is greater than a baseline value, to determine a plurality of time intervals Tn within the VBR representation in which a number of blocks of information per unit time is less than the baseline value, and to create a second representation of the image sequence in which some blocks of information Bp are removed from the time intervals Tp and interlaced with blocks of information Bn in the time intervals Tn to reduce a variation in a number of blocks of information per unit time between the time intervals Tp and Tn.

11. The system of claim 10 wherein the number of blocks of information per unit time in the second representation is about equal to the baseline value in the time intervals Tp and Tn.

12. The system of claim 10 wherein the processor is further to determine a bit rate for encoding the image sequence to the VBR representation which produces a desired information content of the second representation and constrains a maximum bit rate of the second representation to be less than or equal to a predetermined value.

13. The system of claim 10 wherein the processor is further to determine a bit rate for encoding the image sequence to the VBR representation which substantially maximizes a desired information content of the second representation and constrains a maximum bit rate of the second representation to be less than or equal to a predetermined value.

14. The system of claim 10 wherein the processor is to populate a header in the second representation with data indicating the time intervals Tn.

15. The system of claim 10 further comprising a transmitter to stream the second representation of the image sequence via a communication network.

16. The system of claim 15 further comprising:
a receiver to receive the second representation of

the image sequence via the communication network;

a buffer; and

a second processor responsive to the receiver to reconstruct frames of the image sequence concurrently with the second representation being received;

wherein during the time intervals Tn, the second processor is to reconstruct frames of the image sequence based on blocks of information Bn received about in real time, and to store the blocks of information Bp in the buffer; and

wherein during the time intervals Tp, the second processor is to reconstruct frames of the image sequence based on the blocks of information Bp stored in the buffer and blocks of information received about in real time.

17. A system for reconstructing an image sequence originally encoded in a variable bit rate (VBR) representation, the VBR representation comprising a plurality of blocks of information, the VBR representation defining a plurality of time intervals Tp in which a number of blocks of information per unit time is greater than a baseline value and a plurality of time intervals Tn in which a number of blocks of information per unit time is less than the baseline value, the system comprising:

a receiver to receive the second representation of the image sequence via the communication network;

a buffer; and

a processor responsive to the receiver to reconstruct frames of the image sequence concurrently

with the second representation being received;

wherein during the time intervals Tn, the processor is to reconstruct frames of the image sequence based on blocks of information Bn received about in real time, and to store the blocks of information Bp in the buffer; and

wherein during the time intervals Tp, the processor is to reconstruct frames of the image sequence based on the blocks of information Bp stored in the buffer and blocks of information received about in real time.

18. The system of claim 17 wherein the number of blocks of information per unit time in the second representation is about equal to the baseline value in the time intervals Tp and Tn.

19. The system of claim 17 wherein the second representation comprises a header with data indicating the time intervals Tn, wherein the processor is further to extract the data indicating the time intervals Tn from the header, and to reconstruct the frames based on the data indicating the time intervals Tn.